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Attorney Docket No. OT-5055

REMARKS

Applicant requests favorable reconsideration of this application in view of the following remarks. Claims 1-10 were pending in the application and were rejected in the Office Action. No claims have been amended or canceled herein and, therefore, claims 1-10 remain respectfully pending for reconsideration.

1. Objections to the Drawings

The Examiner objected to the drawings due to an alleged failure to show: (a) a cross-section of the coil being arcuate, as recited in claim 4; (b) a thickness of the innermost coil radially varying, as recited in claims 8 and 10; and (c) a thickness of the outermost coil radially varying, as recited in claim 9. For at least the following reasons, Applicant respectfully traverses each of these objections.

As shown in Figure 2, the conical spring buffer is shown to have a generally circular cross-section, as indicated by the dashed lines by reference character "d". Moreover, as a circular cross-section is an arcuate cross-section, the subject matter recited in claim 4 is clearly shown in the drawings. Therefore, a withdrawal of this objection is both warranted and earnestly solicited.

As shown in Figure 2, the uppermost coil, which is the innermost coil, has a thickness that ranges from a generally pointed tip (at the flat surface 36 on the right side of Figure 2) to the common thickness "d" (at the left side of Figure 2) of the coils between the innermost and outermost coils. As the thickness of the innermost coil is clearly shown in Figure 2 to vary, the subject matter recited in claims 8 and 10 is clearly shown in the drawings. Therefore, a withdrawal of this objection is both warranted and earnestly solicited.

As shown in Figure 2, the lowermost coil, which is the outermost coil, has a thickness that ranges from the common thickness "d" (at the left side of Figure 2) of the coils between the innermost and outermost coils to a thinner thickness at the flat surface 38 (at the right side of Figure 2). As the thickness of the outermost coil is clearly shown in Figure 2 to vary, the subject matter recited in claim 9 is clearly shown in the drawings. Therefore, a withdrawal of this objection is both warranted and earnestly solicited.

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2. Rejections of Claims 4 and 8-10 under 35 U.S.C. § 112**a. Rejection of Claim 4**

The Examiner rejected claim 4 under 35 U.S.C. § 112, ¶ 1 as allegedly being unsupported by the specification. As hereafter explained, Applicant respectfully traverses this rejection.

The Examiner asserts that ¶¶ [0009] and [0025] do “not describe a cross section of the coil element being arcuate [as] claimed in claim 4.” Regardless of what ¶¶ [0009] and [0025] teach, the arcuate cross-section recited in claim 4 is clearly taught in Figure 2 in such a way as to reasonably convey to one skilled in the elevator art that the inventor, at the time the application was filed, had possession of the claimed invention. Accordingly, a withdrawal of the rejection of claim 4 under 35 U.S.C. § 112 is both warranted and respectfully requested.

b. Claims 8-10

The Examiner rejected claims 8-10 under 35 U.S.C. § 112, ¶ 2 as allegedly being indefinite. As hereafter explained, Applicant respectfully traverses this rejection.

The Examiner states that “it is unclear and indefinite wherein the innermost or the outermost coil can radially vary when independent claim 1 claims a thickness of the coil element is substantially uniform between an outermost and an innermost coil.” As previously presented, (a) claim 1 recites that “a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil” and (b) claims 8-10 recite that a “thickness of the innermost/outermost coil radially varies.” Support for these recitations is clearly shown in Figure 2, which shows (as recited in claim 1) that at all points, except for at the innermost and outermost ends of the spiral coil element, its thickness “d” is substantially uniform. As the ends of the coil element taper, so as to enable the coil element to be flattened into the configuration shown in Figure 3B, it would have been incorrect to recite that the thickness is “completely” or “entirely” uniform. Accordingly, the recitation that the thickness of the coil element is “substantially uniform” in claim 1 is both accurate and fully supported by the specification. Further, the recitations in claims 8-10 that the thickness at the individual innermost and outermost coils (as opposed to the entire coil element itself) radially varies is consistent with claim 1’s recitation that the thickness of the entire coil element (as opposed to individual coils thereto) is “substantially uniform”.

With respect to the Examiner’s separate assertion that the term “substantially” itself is indefinite, Applicant respectfully directs the Examiner’s attention to M.P.E.P. § 2173.05(b)(D), which teaches that the term “substantially” can indeed be definite.

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Moreover, to the extent that the Examiner was asserting that the "specification does not provide a standard for ascertaining the requisite degree," Applicant respectfully notes that one of ordinary skill in the art would readily be able to determine the requisite degree based on that which is clearly shown in Figure 2. Accordingly, as claims 8-10 are consistent with claim 1 and as the subject matter recited in claims 8-10 is sufficiently definite, a withdrawal of the rejection of claims 8-10 under 35 U.S.C. § 112 is both warranted and earnestly solicited.

3. Rejections of Claims 1-10 under 35 U.S.C. § 103(a)

Under 35 U.S.C. § 103(a), the Examiner rejected: (a) claims 1-3, 5, 6, and 8-10 as allegedly being obvious when considering U.S. Patent No. 568,345 ("Gilpin") in view of U.S. Patent No. 380,651 ("Fowler"); (b) claim 4 as allegedly being obvious when considering Gilpin in view of Fowler and U.S. Patent No. 190,291 ("Davis"); and (c) claim 7 as allegedly being obvious when considering Gilpin in view of Fowler and U.S. Patent No. 3,768,596 ("Solymos"). For at least the following reasons, Applicant respectfully traverses each of these rejections.

As previously presented, claim 1 (*i.e.*, the claim from which claims 2-10 depend) recites a buffer for an elevator system. This buffer includes, among other possible things (*italic emphasis added*):

a conical coil spring,

wherein the buffer is configured to be disposed at one end of a hoistway of the elevator system for contacting a vertically moving member of said elevator system in the event of an abnormal overrun,

wherein the conical coil spring includes a spiral coil element that comprises a series of coils,

wherein a radius of the spiral coil element decreases along an axis of the conical coil spring such that if the spiral coil spring is fully compressed, the coils of the spiral coil spring are configured to be arranged in a substantially planar configuration, and

wherein a thickness of the coil element is substantially uniform between an outermost coil and an innermost coil.

As hereafter explained, a combination of Gilpin, Fowler, Davis, and/or Solymos can not be used to render claim 1 obvious.

In rejecting claim 1, the Examiner acknowledges that Gilpin: is silent (a) "concerning the spiral coil spring being fully compressed, the coils of the spiral coil spring are configured to be arranged in a substantially planar configuration" and; (b) regarding "a thickness of the

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coil element is substantially uniform between an outermost and an innermost coil." See Office Action at p. 5. To cure both of these deficiencies of Gilpin, the Examiner turns to Fowler. As hereafter explained, however, the Examiner's reliance on Fowler to cure the second of these deficiencies is misplaced.

When applying Fowler to cure the second of the aforementioned deficiencies of Gilpin, the Examiner states: "while the preferred embodiment of Fowler et al. does show a non-uniform thickness between the outermost coil and an innermost coil, a statement indicating the desirability of having a [non]-uniform thickness between the outermost coil and an innermost coil in no way criticizes, discredits, or otherwise discourages the solution of having a uniform thickness between the outermost coil and an innermost coil." See Office Action at p. 5. Even assuming, *arguendo*, that this statement is correct, the Examiner still must consider Fowler as a whole, including any provisions in it that teach away from its combination with a primary reference (in this case Gilpin). See M.P.E.P. § 2141(II)(b), 2141.02(VI).

In this case, to combine Fowler with Gilpin would require ignoring the explicit teachings in Fowler that teach away from using a uniform thickness. Specifically, the point of Fowler's invention is to achieve a spring that has a "superior" action in terms of ease and smoothness (see lines 53-56). Fowler achieves this "superior" action by varying both the thickness of the coil and the spacing between successive coils. Accordingly, if one were to ignore the non-uniform thickness teachings in Fowler and instead were to apply a uniform thickness to Fowler's coil, Fowler's device would be unsatisfactory for its intended purpose. As stated in M.P.E.P. § 2141.03(V): "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." As a combination of Gilpin and Fowler would render Fowler unsatisfactory for its intended purpose and/or would require ignoring Fowler's teachings regarding the importance of a non-uniform thickness to achieve a "superior" spring action, Gilpin and Fowler can not be properly combined under 35 U.S.C. § 103(a) to render claim 1 obvious.

In addition to the foregoing, it is respectfully noted that, like Fowler, neither Davis nor Solymos can be used to cure the second of Gilpin's acknowledged deficiencies. As a result, it is clear that the combination of Gilpin with any of Fowler, Davis, and/or Solymos can be used to reject claim 1, or any claim dependent thereon, under 35 U.S.C. § 103(a). Moreover, as claims 2-10 depend from claim 1, each of these dependent claims is also allowable over

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Gilpin, Fowler, Davis, and Solymos, without regard to the other patentable limitations recited therein. Accordingly, a withdrawal of the rejections of claims 1-10 under 35 U.S.C. § 103(a) is both warranted and respectfully requested.

CONCLUSION

In light of the foregoing, claims 1-10 remain in condition for allowance. If the Examiner believes that a telephone conference will be useful to move this case forward toward issuance, Applicant's undersigned representative will be happy to discuss any issues regarding this application and can be contacted at the telephone number indicated below.

Respectfully submitted,

March 19, 2007

Date: _____

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OTIS ELEVATOR COMPANY

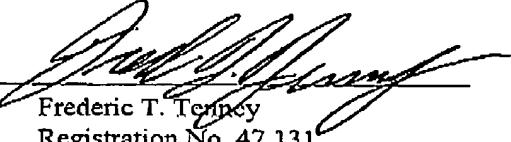
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